

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: REMERICQ, Maurice

SERIAL NO.:

FILED: Herewith

TITLE: PROCESS AND A DEVICE FOR THE ON-LINE STORAGE OF SETS OF FLAT PRODUCTS SUCH AS, IN PARTICULAR, DISPOSABLE LINERS OR SANITARY NAPKINS

PRELIMINARY AMENDMENT

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

In conjunction with the filing of the present application, and prior to an initial Official Action on this matter, please amend the above-identified application as follows:

IN THE SPECIFICATION

In Paragraph [0015], please substitute the paragraph as follows:

The invention and its different advantages will be more readily understood from a study of the following description, accompanied by the annexed drawings.

In Paragraph [0016], please substitute the paragraph as follows:

Fig. 1 is a side plan view illustration of an exemplary embodiment of the device according to the invention.

In Paragraph [0017], please substitute the paragraph as follows:

Figs. 2a and 2b [schematically reproduce] are schematic views of Fig. 1, the device according to the invention being in two different [conditions,] conditions.

In Paragraph [0018], please substitute the paragraph as follows:

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Fig. 3 is a front plan view of the input station of the device of Fig. 1, representing certain parts of the invention.

In Paragraph [0019], please substitute the paragraph as follows:

Figs. 4a and 4b are side plan views of the input station of the device of Fig. 1, illustrated in two different conditions, some of the parts being shown in transparency.

In Paragraph [0020], please substitute the paragraph as follows:

Fig. 5 is another schematic view of Fig. 3, showing other parts of the invention.

In Paragraph [0021], please substitute the paragraph as follows:

Fig. 6 is a top view of the output station of the device of Fig. 1.

In Paragraph [0022], please substitute the paragraph as follows:

Fig. 7 is a top view illustrating the operating principle of the means shown in Fig. 6.

### IN THE CLAIMS

In Claim 1, please substitute the claim as follows:

1. (Amended) Process for the on-line storage of sets (2) of flat products (1) such as, in particular, disposable liners or sanitary napkins, comprising transporting said products between one or more input stations (3) and one or more output stations (4);

introducing said sets at a given arrival rate at said input station or stations (3) between pressing means (6), capable of moving with said sets, said pressing means (6) being in a first, so-called open, configuration,

pressing said products against one another by causing said pressing means (6) to change over from their open configuration to a second, so-called product holding, configuration, and

directing said sets towards said output station or stations (4) at which they are ejected, at a given output rate, adapted as a function of the input rate, to manage an accumulation of sets between said input station or stations (3) and said output station or stations (4).

In Claim 3, please substitute the claim as follows:

3. (Amended) Process according to Claim 1, wherein said sets are caused to travel between said input station or stations (3) and said output station or stations (4) along a path the length of which is variable as a function of the input and/or output rate, to manage said accumulation.

In Claim 4, please substitute the claim as follows:

4. (Amended) Process according to Claim 1, further comprising a stream of sets of variable size and said holding configuration being adapted according to the size of the sets to be conveyed.

In Claim 5, please substitute the claim as follows:

5. (Amended) Device for the on-line storage of sets of flat products such as, in particular, disposable liners or periodic napkins, comprising one or more input stations (3), one or more output stations (4), means (8) for conveying said sets between said input station or stations (3) and said output station or stations (4),

pressing means (6), capable of moving with said set conveying means (8), said pressing means (6) being capable of changing over from a first, so-called open, configuration, permitting introduction of the sets into said conveying means (8) at a given input rate, to a second, or so-called product holding configuration, in which the products are pressed against one another,

means (10) for causing said pressing means (6) to change over from their open configuration to their product holding configuration, provided at said input station or stations,

means (7) for ejecting the sets, provided at said output station or stations for the departure of the sets at a given output rate, and

means (9) for generating an accumulation of the sets between the input station or stations (3) and the output station or stations (4), as a function of the input and/or output rate.

In Claim 6, please substitute the claim as follows:

6. (Amended) Device according to claim 5, wherein said conveying means (8) take a looped path, said device further comprising means for causing said pressing means (6) to change over from their product holding configuration to their open configuration, provided, in the direction of progress of the conveying means, between said output station or stations (4) and/or said input station or stations (3) and/or in the area thereof.

In Claim 8, please substitute the claim as follows:

8. (Amended) Device according to claim 5, further comprising :

a conveying means (8) comprising a plurality of pods (11), each said pod (11) being capable of accommodating at least one said set,

a pressing means (6) being comprised of two carriages (15) sliding in the same, so-called clamping, direction (17), on said pod (11) and means (16) for holding said carriages spaced apart by a given distance.

In Claim 9, please substitute the claim as follows:

9. (Amended) Device according to claim 8, wherein said means (16) for holding the carriages (15) are comprised of first and second blocking means (22a, 22b) capable of engaging with one another, the first blocking means (22a) being secured to said carriage (15) and said second blocking means (22b) being articulated in relation to said car (11), and locking means (23), borne by the pod (11), said locking means (23) being capable of forcing the engagement of said second blocking means (22b) with said first blocking means (22a).

In Claim 10, please substitute the claim as follows:

10. (Amended) Device according to claim 9, wherein said means (10) for causing said pressing means (6) to change over from their open configuration to their product holding configuration comprise:

at least a first jack (30), secured to an armature (31) fixed in relation to which the pods (11) travel, said first jack or jacks (30) being capable of acting upon said locking means (23) to disengage said first and second blocking means (22a, 22b) and leave them free in relation to one another, and

second jacks (32) secured to said fixed armature (31), said second jacks (32) being capable of causing said carriages (15) to slide in said clamping direction (17) between said open configuration and said product holding configuration.

In Claim 11, please substitute the claim as follows:

11. (Amended) Device according to claim 10, further comprising means (36) for adapting said product holding configuration.

In Claim 12, please substitute the claim as follows:

12. (Amended) Device according to claim 11, wherein said means (36) for adapting the product holding configuration are comprised of stops (37), mobile in relation to said fixed armature (31), said stops (37) being capable of limiting the travel of said second jacks (32) so as to adjust the minimum spacing of said carriages (15).

In Claim 13, please substitute the claim as follows:

13. (Amended) Device according to claim 5, wherein said ejection means (7) comprise a thrust bearing (44) and means for displacing said stop in a first direction (45), the latter means being comprised of means (46) capable of generating a force in a second direction (47), substantially perpendicular to said first direction (45) and means (48) for transmitting said force, cooperating with said stop (44).

In Claim 14, please substitute the claim as follows:

14. (Amended) Device according to claim 13, wherein said transmission means (48) are comprised of two arms (49), forming the two equal sides of an isosceles triangle (50) the axis of symmetry of which is defined by said first direction (45), and means for bringing together/separating said arms (49) by deforming said triangle (50) while preserving its characteristics as an isosceles triangle and the orientation of its axis of symmetry.

In Claim 16, please substitute the claim as follows:

16. (Amended) Device according to claim 15, wherein said means (46) for generating a force are comprised of at least one jack (55) driving, directly or indirectly, said skids (54).

In Claim 17, please substitute the claim as follows:

17. (Amended) Device according to claim 16, wherein said means (9) for managing an accumulation of sets are comprised of means for varying the length of the path taken by said transport means (8).

In Claim 18, please substitute the claim as follows:

18. (Amended) Device according to claim 17, wherein said conveying means (8) comprise at least one belt (12) forming a loop of a fixed length and wherein said means for varying the length of the path comprises

a first pair of so-called driving drums (56a, 56b), serving to drive said belt (12),  
means for actuating said driving drums (56a, 56b) capable of operating them at two  
respective separate speeds, and

a second pair of drums (58a, 58b) about which the belt (12) travels; the first (58a) and the second (58b) drums of said second pair being respectively provided between the first (56a) and the second (56b) driving drums and between the second (56b) and the first (56a) driving drums, according to the direction of travel of said belt (12), said first (58a) and second (58b) drums of said

second pair being held at a constant distance from one another and said second pair being mobile in relation to said first pair.

#### IN THE ABSTRACT

On page 21, please substitute the paragraph as follows:

A process and a device for the on-line storage of sets of flat products such as, in particular, disposable liners or sanitary napkins, in which said products are transported between one or more input stations and one or more output stations. The sets are introduced at a given input rate at input station or stations between a pressing device, capable of moving with the sets, the pressing device being in a first, so-called open, configuration. The products are pressed against one another by causing the pressing device to change over from their open configuration to a second, so-called product holding, configuration. The sets are directed towards the output station or stations at which they are ejected, at a given output rate, adapted as a function of the input rate, to manage an accumulation of sets between the input station or stations and the output station or stations.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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REMARKS ON PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In this preliminary amendment, please consider the following remarks in conjunction with the amendments to the above-identified application as follows:

REMARKS

The present Preliminary Amendment has been entered for the purpose of placing the application into a more proper U.S. format. In particular, certain grammatical and idiomatic inconsistencies have been corrected by amendment to the specification, and the application is corrected for certain typographical errors found in the originally submitted application. No new matter has been added by these amendments. The present application is based upon an English translation of the French priority document.

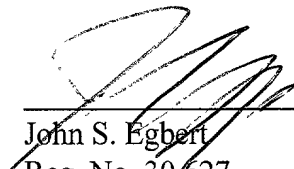
The claims and Abstract have been amended so as to conform with U.S. requirements.

Applicant respectfully requests that the present Amendment be entered prior to an initial Official Action on the present application.

Respectfully submitted,

Date

1-15-02

  
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VERSION WITH MARKINGS TO SHOW CHANGES in the PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In conjunction with the filing of the present application, and prior to an initial Official Action on this matter, please amend the above-identified application as follows:

IN THE SPECIFICATION

In Paragraph [0015], the paragraph has been amended as follows:

The invention and its different advantages will be more readily understood from a study of the following description, accompanied by the annexed [drawings, wherein:] drawings.

In Paragraph [0016], the paragraph has been amended as follows:

[- ]Fig. 1 is a side plan view illustration of an exemplary embodiment of the device according to the [invention,] invention.

In Paragraph [0017], the paragraph has been amended as follows:

[- ]Figs. 2a and 2b [schematically reproduce] are schematic views of Fig. 1, the device according to the invention being in two different [conditions,] conditions.



In Paragraph [0018], the paragraph has been amended as follows:

[- ]Fig. 3 is a [simplified front] front plan view of the input station of the device of Fig. 1, representing certain parts of the [invention,] invention.

In Paragraph [0019], the paragraph has been amended as follows:

[- ]Figs. 4a and 4b are side plan views of the input station of the device of Fig. 1, illustrated in two different conditions, some of the parts being shown in [transparency,] transparency.

In Paragraph [0020], the paragraph has been amended as follows:

[- ]Fig. 5 [reproduces] is another schematic view of Fig. 3, showing other parts of the [invention,] invention.

In Paragraph [0021], the paragraph has been amended as follows:

[- ]Fig. 6 is a top view of the output station of the device of Fig. [1,] 1.

In Paragraph [0022], the paragraph has been amended as follows:

[- ]Fig. 7 is a top view illustrating the operating principle of the means shown in Fig. 6.

### IN THE CLAIMS

In Claim 1, the claim has been amended as follows:

1. (Amended) Process for the on-line storage of sets (2) of flat products (1) such as, in particular, disposable liners or sanitary napkins, [in which] comprising transporting said products [are transported] between one or more input stations (3) and one or more output stations (4) [and in which:];

[-] introducing said sets [are introduced] at a given arrival rate at said input station or stations (3) between pressing means (6), capable of moving with said sets, said pressing means (6) being in a first, so-called open, configuration,

[-] pressing said products [are pressed] against one another by causing said pressing means (6) to change over from their open configuration to a second, so-called product holding, configuration, and

[ - ] directing said sets [are directed] towards said output station or stations (4) at which they are ejected, at a given output rate, adapted as a function of the input rate, to manage an accumulation of sets between said input station or stations (3) and said output station or stations (4).

In Claim 3, the claim has been amended as follows:

3. (Amended) Process according to [claims 1 or 2, in which] Claim 1, wherein said sets are caused to travel between said input station or stations (3) and said output station or stations (4) along a path the length of which is variable as a function of the input and/or output rate, to manage said accumulation.

In Claim 4, the claim has been amended as follows:

4. (Amended) Process according to [any one of claims 1 to 3, in which there is provided] Claim 1, further comprising a stream of sets of variable size and said holding configuration [is] being adapted according to the size of the sets to be conveyed.

In Claim 5, the claim has been amended as follows:

5. (Amended) Device for the on-line storage of sets of flat products such as, in particular, disposable liners or periodic napkins, [including] comprising one or more input stations (3) [and], one or more output stations (4), [as well as] means (8) for conveying said sets between said input station or stations (3) and said output station or stations (4), [said device further including :]

[ - ] pressing means (6), capable of moving with said set conveying means (8), said pressing means (6) being capable of changing over from a first, so-called open, configuration, permitting [the] introduction of the sets into said conveying means (8) at a given input rate, to a second, or so-called product holding configuration, in which the products are pressed against one another,

[ - ] means (10) [or] for causing said pressing means (6) to change over from their open configuration to their product holding configuration, provided at said input station or stations,

[ - ] means (7) for ejecting the sets, provided at said output station or stations for the departure of the sets at a given output rate, and

[ - ] means (9) for generating an accumulation of the sets between the input station or stations (3) and the output station or stations (4), as a function of the input and/or output rate.

In Claim 6, the claim has been amended as follows:

6. (Amended) Device according to claim 5, [in which] wherein said conveying means (8) take a looped path, said device [including] further comprising means for causing said pressing means (6)

to change over from their product holding configuration to their open configuration, provided, in the direction of progress of the conveying means, between said output station or stations (4) and/or said input station or stations (3) and/or in the area thereof.

In Claim 8, the claim has been amended as follows:

8. (Amended) Device according to claim 5, [in which] further comprising :

[ - said] a conveying means (8) [include] comprising a plurality of pods (11), each said pod (11) being capable of accommodating at least one said set,

[ - said] a pressing means (6) [are constituted by] being comprised of two carriages (15) sliding in the same, so-called clamping, direction (17), on said pod (11) and [by] means (16) for holding said carriages spaced apart by a given distance.

In Claim 9, the claim has been amended as follows:

9. (Amended) Device according to claim 8, [in which] wherein said means (16) for holding the carriages (15) are [constituted by] comprised of first and second blocking means (22a, 22b) capable of engaging with one another, the first blocking means (22a) being secured to said carriage (15) and said second blocking means (22b) being articulated in relation to said car (11), [as well as by] and locking means (23), borne by the pod (11), said locking means (23) being capable of forcing the engagement of said second blocking means (22b) with said first blocking means (22a).

In Claim 10, the claim has been amended as follows:

10. (Amended) Device according to claim 9, [in which] wherein said means (10) for causing said pressing means (6) to change over from their open configuration to their product holding configuration [are constituted:] comprise:

[ - by] at least a first jack (30), secured to an armature (31) fixed in relation to which the pods (11) travel, said first jack or jacks (30) being capable of acting upon said locking means (23) to disengage said first and second blocking means (22a, 22b) and leave them free in relation to one another, and

[ -] second jacks (32) secured to said fixed armature (31), said second jacks (32) being capable of causing said carriages (15) to slide in said clamping direction (17) between said open configuration and said product holding configuration.

In Claim 11, the claim has been amended as follows:

11. (Amended) Device according to claim 10, [including] further comprising means (36) for adapting said product holding configuration.

In Claim 12, the claim has been amended as follows:

12. (Amended) Device according to claim 11, [in which] wherein said means (36) for adapting the product holding configuration are [constituted by] comprised of stops (37), mobile in relation to said fixed armature (31), said stops (37) being capable of limiting the travel of said second jacks (32) so as to adjust the minimum spacing of said carriages (15).

In Claim 13, the claim has been amended as follows:

13. (Amended) Device according to claim 5, [in which] wherein said ejection means (7) [include] comprise a thrust bearing (44) and means for displacing said stop in a first direction (45), the latter means being [constituted by] comprised of means (46) capable of generating a force in a second direction (47), substantially perpendicular to said first direction (45) and [by] means (48) for transmitting said force, cooperating with said stop (44).

In Claim 14, the claim has been amended as follows:

14. (Amended) Device according to claim 13, [in which] wherein said transmission means (48) are [constituted by] comprised of two arms (49), forming the two equal sides of an isosceles triangle (50) the axis of symmetry of which is defined by said first direction (45), and [by] means for bringing together/separating said arms (49) by deforming said triangle (50) while preserving its characteristics as an isosceles triangle and the orientation of its axis of symmetry.

In Claim 16, the claim has been amended as follows:

16. (Amended) Device according to claim 15, [in which] wherein said means (46) for generating a force are [constituted by] comprised of at least one jack (55) driving, directly or indirectly, said skids (54).

In Claim 17, the claim has been amended as follows:

17. (Amended) Device according to claim 16, [in which] wherein said means (9) for managing an accumulation of sets are [constituted by] comprised of means for varying the length of the path taken by said transport means (8).

In Claim 18, the claim has been amended as follows:

18. (Amended) Device according to claim 17, [in which] wherein said conveying means (8) [include] comprise at least one belt (12) forming a loop of a fixed length and [in which] wherein said means for varying the length of the path [are constituted: :] comprises

[ - by] a first pair of so-called driving drums (56a, 56b), serving to drive said belt (12),

[ - by] means for actuating said driving drums (56a, 56b) capable of operating them at two respective separate speeds, and

[ - by] a second pair of drums (58a, 58b) about which the belt (12) travels; the first (58a) and the second (58b) drums of said second pair being respectively provided between the first (56a) and the second (56b) driving drums and between the second (56b) and the first (56a) driving drums, according to the direction of travel of said belt (12), said first (58a) and second (58b) drums of said second pair being held at a constant distance from one another and said second pair being mobile in relation to said first pair.

#### IN THE ABSTRACT

On page 21, the paragraph has been amended as follows:

[The invention relates to a] A process and a device for the on-line storage of sets [(2)] of flat products [(1)] such as, in particular, disposable liners or sanitary napkins, in which said products [(1)] are transported between one or more input stations [(3)] and one or more output [stations (4) and in which:] stations.

[ - said] The sets [(2)] are introduced at a given input rate at [said] input station or stations [(3)] between a pressing [means (6)] device, capable of moving with [said sets (2), said] the sets, the pressing [means (6)] device being in a first, so-called open, [configuration,] configuration.

[ - said] The products are pressed against one another by causing [said] the pressing [means (6)] device to change over from their open configuration to a second, so-called product holding, [configuration,] configuration.

[ - said sets (2)] The sets are directed towards [said] the output station or stations [(4)] at which they are ejected, at a given output rate, adapted as a function of the input rate, to manage an accumulation of sets [(2)] between [said] the input station or stations [(3)] and [said] the output station or stations [(4)]

[Fig. 1].